Remarks

Applicants respectfully request reconsideration of the present application in view of the above amendments and following remarks. Claim 14 has been amended and claims 18-20 have been added. No claims have been cancelled. Therefore, claims 1, 3-9, 14 and 16-20 are pending in the present application.

Claim 14 has been amended to state that the plurality of fuel cells are bonded together as opposed to just being coupled together. *See Specification*, pg. 4, lines 26-29; pg. 5, lines 1-29; pg. 6, lines 1-3. Claim 14 has been further amended to state that the fuel cell sub-assembly modules are bonded together as opposed to just being coupled together. *See id.* at pg. 6, lines 12-19.

Claims 1, 3, 14, 16 and 17 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,410,180 to Cisar et al. ("the Cisar reference"). Applicants respectfully traverse this rejection.

Independent claim 1 is directed to a method for forming a fuel cell assembly. The method comprising the steps of: a) forming a fuel cell sub-assembly module containing at least two bonded together fuel cell units, the at least two fuel cell units each including an anode, a cathode, and a membrane electrode assembly; b) testing the sub-assembly module; and c) joining together a plurality of sub-assembly modules to form the fuel cell assembly.

The Cisar reference does not teach or suggest a method of forming a fuel cell assembly including forming a fuel cell sub-assembly module containing at least two bonded together fuel cell units as recited in claim 1. In rejecting claim 1, the

Examiner refers to Example 18 in the Cisar reference to teach a fuel cell sub-assembly module containing at least two bonded together fuel cell units. *See Office Action dated September 22, 2006* ("Office Action"), pg. 3. The Cisar reference states that Example 18 relates to the performance of a three-cell module. *See Cisar*, Col. 22, lines 35-36. However, Example 18 does not provide any detail regarding the structure of the three-cell module, therefore it was necessary to look elsewhere in the Cisar reference to determine a proper construction of the term "module" and if the cells that make up a module are bonded together fuel cell units. Within the discussion of Example 14 of the Cisar reference, multi-cell modules (e.g., the three-cell module in Example 18) are defined with reference to the cross-section of the multi-cell module shown in FIG. 18. *See Cisar*, Col. 21, lines 26-27. In particular, the Cisar reference states that the "key feature of these modules is the use of a common metal grid for the anode of one cell and the cathode of the next cell in the series." *Cisar*, Col. 21, lines 27-30. As best seen in FIG. 18, there appears to be two fuel cells positioned side-by-side that are coupled together by an element (164). Applicant was unable to locate anywhere in the specification of the Cisar reference what element (162) represents. Furthermore, the Cisar reference also fails to describe what elements (164, 166, 168) are referring to in FIG. 18. Due to the lack of detail provided in the Cisar reference, the only thing that can be ascertained by FIG. 18 is that the two fuel cells share a common element (a grid?) and at most touch each other through some type of circular element (162). Applicants submit that the Examiner has failed to provide any specific evidence that shows that the two fuel cells in FIG. 18 are bonded together or, if regarded as a

"module," that the fuel cell unit includes an anode, a cathode and a membrane electrode assembly, as provided for in claim 1.

For at least this reason, the Cisar reference fails to teach all of the limitations included in claim 1. Applicants request that the rejection of claim 1 be withdrawn. As claim 3 depends from claim 1, Applicants request that the rejection of claim 3 be withdrawn for at least the same reason that was set forth with respect to claim 1.

Amended claim 14 is directed to a fuel cell assembly comprising a plurality of fuel cells bonded together to form a plurality of fuel cell sub-assembly modules. The plurality of fuel cell sub-assembly modules are bonded together to form the fuel cell assembly, wherein at least one of the fuel cells includes a bipolar plate assembly and a membrane electrode assembly.

For reasons similar to those set forth with respect to claim 1, Applicants submit that the Cisar reference does not teach or suggest a fuel cell assembly including a plurality of fuel cells bonded together to form a plurality of fuel cell sub-assembly modules as recited in amended claim 14. Moreover, Applicants submit that the Cisar reference does not teach or suggest a fuel cell assembly including a plurality of fuel cell sub-assembly modules bonded together to form the fuel cell assembly as recited in amended claim 14. In rejecting this portion of claim 14, the Examiner made reference to Col. 10, lines 66-67 and Col. 11, lines 1-2 of the Cisar reference. *See Office Action*, pg. 3. However, the modules referred to in this section of the Cisar reference are described as merely being connected to one another, not bonded together as recited in claim 14. As such, this additional

limitation is not specifically disclosed in the Cisar reference, which is required in order to support an anticipation rejection.

For at least the foregoing reasons, Applicants request that the rejection of claim 14 be withdrawn. As claims 16 and 17 depend from claim 14, Applicants request that the rejection of claims 16 and 17 be withdrawn for at least the same reasons that were set forth with respect to claim 14.

Claims 4-9 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Cisar reference in view of U.S. Patent Publication No. 2004/0053100 to Stanley et al. ("the Stanley reference"), U.S. Patent Publication No. 2005/0091838 to Frank et al. ("the Frank reference"), or U.S. Patent No. 6,761,991 to Frisch et al. ("the Frisch reference"). Applicants respectfully traverse this rejection.

As stated above with respect to claim 1, the Cisar reference does not teach or suggest a method of forming a fuel cell assembly including forming a fuel cell sub-assembly module containing at least two bonded together fuel cell units as recited in claim 1. While each of the Stanley, Frank or Frisch references provide methods for coupling the components of fuel cells together in some fashion, there has been no specific evidence presented to establish that these methods are combinable with the side-by-side fuel cell arrangement shown in FIG. 18 of the Cisar reference, as proposed by the Examiner, to bond together at least two fuel cell units to form a fuel cell sub-assembly module, and then joining together a plurality of sub-assembly modules to form a fuel cell assembly as recited in claim 1.

New claim 18 is directed to the method set forth in claim 1 wherein the at least two fuel cell units are bonded together using at least one elastomeric gasket and at least one gasketing element. *See Specification*, pg. 4, lines 26-29; pg. 5, lines 1-7. New claim 19 is directed to the method set forth in claim 1 wherein the plurality of sub-assembly modules are joined together using at least one elastomeric gasket and at least one gasketing element. *See Specification*, pg. 6, lines 12-19. Applicants submit that the none of the references of record alone, or taken in combination, teach or suggest all of the limitations included in claims 18 and 19.

New claim 20 is directed to the method set forth in claims 1 and 4 wherein the at least one alignment element is a rod, wherein each of the bipolar plate assemblies include a bore, and wherein each of the bores receive the rod to align the bipolar plate assemblies. *See Specification*, pg. 6, lines 4-11. In the Office Action, the Examiner stated that Column 8, lines 45-67 and Column 21, lines 10-41 of the Cisar reference teach an alignment element. *See Office Action*, pg. 4.

With reference to Column 8, lines 45-67 of the Cisar reference, the Examiner failed to specifically point out which feature in FIGS. 3 and 4 discloses the alignment element, and Applicant is not clear as to which feature is the alignment element since there is none present in FIGS. 3 and 4. The Examiner could possibly be referring to the feature labeled with reference numeral (37) in FIGS. 3 and 4. However, this particular feature (37) is positioned on the end of a series of cells and is used as an electrical contact, not an alignment element for aligning the bipolar plate assemblies. *See Cisar*, Col. 8, lines 56-59.

With reference to Column 8, lines 45-67 of the Cisar reference, there is disclosed an upper platen block and a lower platen block that are kept in alignment by a set of four pins. *See Cisar*, Col. 21, lines 14-16, 20-22. In particular, the four pins are set in the lower platen block, with the upper platen block sliding on the pins keeping the two platen surfaces aligned through the pressing process so that maximum uniformity of load and heat are maintained as only one cell is pressed at a time. *See Cisar*, Col. 21, lines 16-25. This portion of the Cisar reference does not in any way provide an alignment element including a rod, wherein each of the bipolar plate assemblies include a bore, and wherein each of the bores receive the rod to align the bipolar plate assemblies. The four pins mentioned in the Cisar reference relates to the alignment of the upper and lower platen blocks, not bipolar plate assemblies. For at least this reason, Applicants submit that claim 20 is in proper form for allowance.

Conclusion

In light of the foregoing, Applicants submit that claims 1, 3-9, 14 and 16-20 are in condition for allowance and such allowance is respectfully requested. Should the Examiner feel that any unresolved issues remain in this case, the undersigned may be contacted at the telephone number listed below to arrange for an issue resolving conference.

Applicants do not believe that any fee is due at this time. However, the Commissioner is hereby authorized to charge any fee that may have been

overlooked to Deposit Account No. 10-0223.

Respectfully submitted,

Dated: 12/22/2006

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